

GEOMETRICAL AND MECHANICAL DRAWING

(Maximum Marks: 100)

(Time allowed: Three hours)

(Candidates are allowed additional 15 minutes for **only** reading the paper.
They must NOT start writing during this time.)

The intended marks for questions or parts of questions are given in brackets [].

A sheet of drawing paper size A2 (594 mm × 420 mm) is provided.

All dimensions are in millimetres.

Arcs of circles less than 4 mm radius may be drawn freehand.

All construction lines must be shown clearly.

Accuracy and good draughtsmanship are essential.

Write your Unique Identification Number (UID) and Index Number at the bottom right-hand corner of your paper in a title block 120 mm × 50 mm.

Answer all Questions

Question 1

Draw the three views of the given object (**Figure 1**) in correct projection.

First or Third Angle:

- (a) Front elevation in the direction of the arrow. [10]
- (b) The end elevation (side view). [10]
- (c) The plan (top view). [10]
- (d) Symbol of the method of projection you have chosen. [5]

Question 2

Figure 2 attached, shows the details of components of a foot step bearing which supports a vertical rotating shaft in operating conditions. Assemble the parts as follows:

The bush (part 2) having the collar at the top is fitted in the main body (part 1). The shaft (part 3) rests on a pad (part 4). The pad (part 4) is prevented from rotating by a pin (part 5), inserted half inside the main body (part 1) and half in the pad (part 4).

- (a) Draw a full size sectional elevation of the assembled components (along A – B). [30]
- (b) Draw the plan (top view) of the complete assembly, omitting all the hidden details. [10]
- (c) Draw the side view of the assembly, omitting all the hidden details. [15]
- (d) Make a neat parts list for all the components, on the drawing sheet. [10]

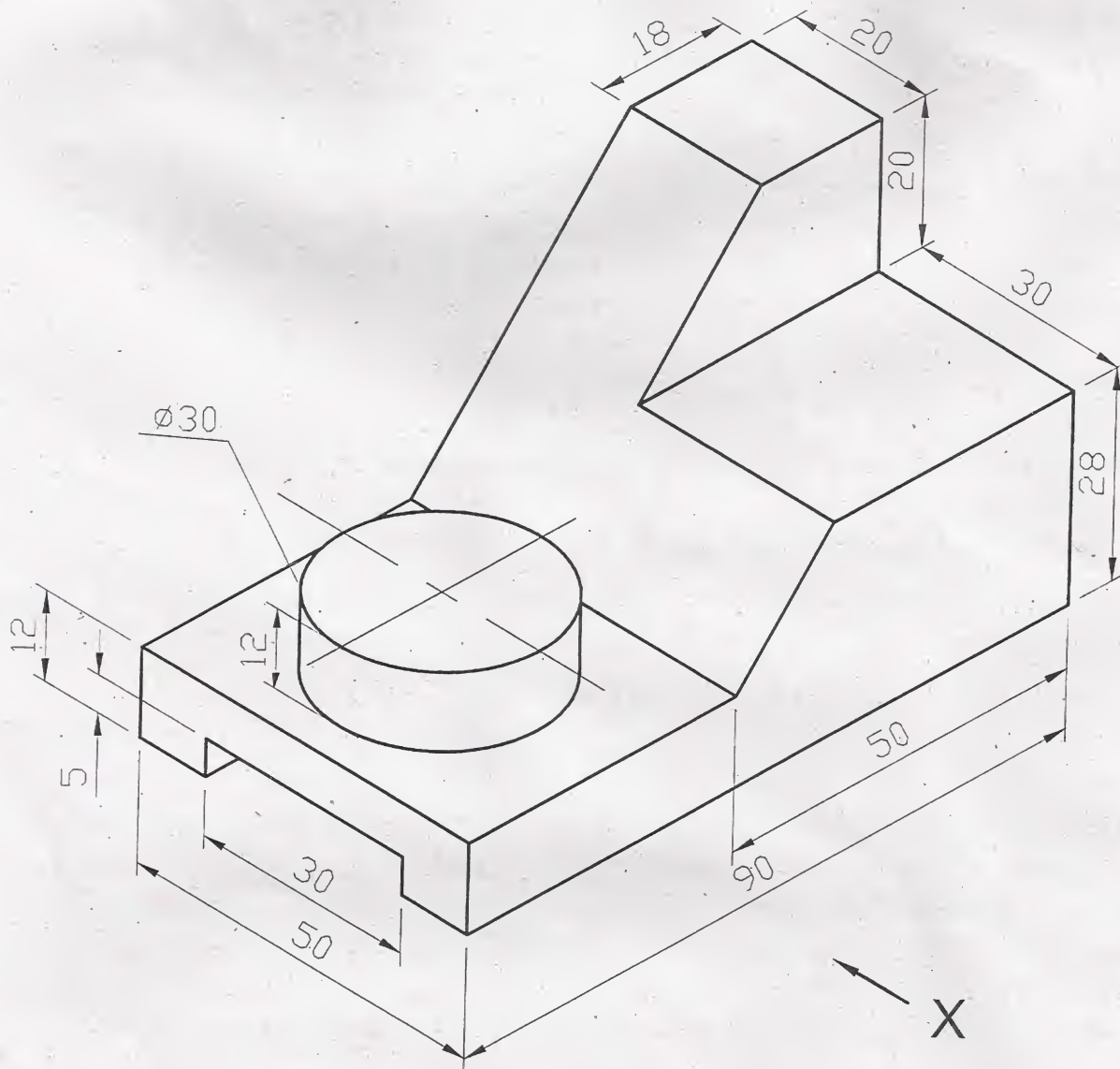
This Paper consists of 3 printed pages and 1 blank page.

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Figure 1 for Question 1



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